

71.83

LEAD PAPER
This Tin Lining is amalgamated to the iron, and the two metals cannot be torn apart, either by bending or rough usage.

J. Hart
Dec 30 1891

IRON

TIN

IRON

TIN

TIN

TIN

CLARK & CO.

Works at
F. W. WARD, MASS.

Manufacturers of TIN

THOS. E. DWYER,

founder of

**Lead Lined and Tin Lined Iron Pipe
Business of the United States.**



Just a Word: If you have any of your pipes that are corroding and eating out badly, write to me direct, giving all particulars of what it is used on and the corrosive liquors, and I will tell you just what to use.

If not stated in your order what the liquids are that our Lead Lined Iron Pipe is to be used for, we will accept it to be used on water, and furnish pipe accordingly, because a pipe to be used on acids must be made up especially for the kind of acid or corrosive liquids it is to be used on, and under no conditions use our Lead Lined Iron Water Pipe for work of that nature.

LEAD LINED
IRON PIPE COMPANY,
WAKEFIELD, MASS.

WE issue this Catalogue in commemoration of our eighteenth anniversary of the manufacture of our **LEAD LINED IRON** and **TIN LINED IRON PIPE**. We are at present furnishing over one hundred Water Works with pipe for all their services, and are furnishing thousands of feet yearly for use on acids, pump column pipes, and numerous other uses.

The reason these kinds of pipe have taken so well with Water Works is on account of cheapness, and because they can be put in a perfectly true line; the pipe can be easily bent, to avoid rocks, without injury to the Lining. They can be cut and threaded as easily as any iron pipe. All Water Departments should control and put in their Service Pipes. Statistics show a saving of 50 per cent. of trouble where Departments put in their own Service Pipe instead of allowing plumbers to do the work.

We furnish an extra heavy iron pipe where there is any danger from electrolysis, and we can cover it with a Special Coating, which will last much longer than any other method of coating pipes.



**The History of Lead Lined Iron Pipe and Tin
Lined Iron Pipe in the United States and
Europe.**

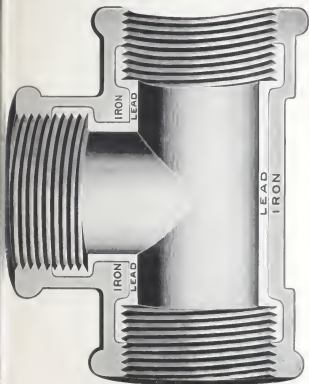
ATTEMPTS have been made, from time to time, both in the United States and Europe, to make a **LEAD LINED IRON PIPE** and **TIN LINED IRON PIPE** with the two metals fused together so there could be

no separation, as the liquids getting between the two metals would cause them to collapse, and especially in hot water or hot acids, and it remained for the LEAD LINED IRON PIPE Co., of Wakefield, Mass., to perfect the pipe and also the fittings, and with our eighteen years' business experience in this line we can furnish you with a pipe that will stand the hardest kind of usage. Our Pipe can be bent and cut and used roughly without any injury to the lining, as it is one solid composite pipe. The Pipe is made as follows: A length of Iron Pipe is taken and thoroughly pickled and given a bath of tin, which solders it inside and outside, making it even before the introduction of the lining a positive Pipe that can have no pin holes in it as is often the case in Iron Pipe, either black or galvanized, and being weak at the weld. Whereas, this Pipe solders the weld from end to end and after it is lined it is practically extra heavy. The lining of lead or tin is poured into the Iron Pipe in a molten state around a mandrel, and the lining is thoroughly fused onto the Iron Pipe. Be sure when ordering or specifying LEAD LINED IRON PIPE or TIN LINED IRON PIPE, that the lining must be amalgamated onto the iron.

Tin Lined and Lead Lined Iron Pipes for Buildings

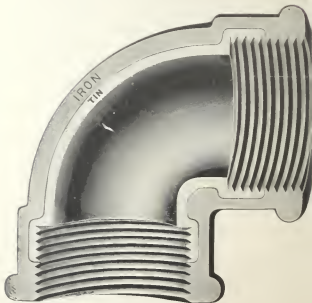
Is LARGELY used in buildings and houses and cannot be attacked by rats, or damaged by carpenters driving nails into the pipes. It will stand the highest pressure without bursting, and is highly recommended for fire mains or sprinkler systems, in buildings, not rusting out, as is the case with iron pipe.

You will notice cuts of Lead Lined Iron Tee and Tin Lined Iron Elbow, and the Tin Lined and Lead Lined Threads in them. These are patented by us, and all other kinds of that nature are an infringement.



Lead Lined Iron Pipe as a Chemical Waste for School Houses and Hospitals.

IT FREQUENTLY occurs that the water from chemical laboratories and from hospitals is strongly impregnated with acids and it eats out iron pipe, but has no effect on LEAD LINED IRON PIPE. We make all kinds of traps, fittings and bends, for use on that work, and some of the largest Hospitals and Schoolhouses in the United States are fitted up with our LEAD LINED PIPE on all their waste pipes where acids or corrosive liquors are used. This pipe is lined with pure chemical lead upon which the acids have no effect.



Lead Lined Iron Pipe for Boiler Feed or Hot Water.

THIS pipe is largely used on that kind of work as there is absolutely no corrosion as is the case in an iron pipe, which often wears out and also carries a good deal of iron rust into the boiler which makes a scale. Various waters act differently on pipe. It is often the case that some waters have a very bad effect on brass or copper pipes as it weakens them, and after a time causes them to split, and if there is any sulphuric acid, or salt, or any other corrosive substance in the water in time it eats the pipe out; whereas in a LEAD LINED IRON PIPE we use a pure chemical lead and the corrosive liquors have no effect on it, and it will stand a higher pressure than any other pipe made. If desired we can line extra heavy iron pipe, which then makes it double extra strong. Try our pipe for boiler feed or hot water and you will use no other. Remember this is half the cost of brass or copper, and will stand a great deal higher pressure.

Lead Lined Iron Pipe for Pulp and Paper Mills.

THIS PIPE is largely used, as we can see it out to sketch, of either Wrought Iron, Cast Iron or Spiral Riveted Pipe, flanged or screwed joints.

Lead Lined Iron Pipe for Acids.

ACIDS attack and eat out all kinds of iron pipe, brass pipes and copper, but do not affect lead pipe, provided, of course, it is pure chemical lead. The joints on LEAD LINED IRON PIPE for acids or chemicals are flanged, thereby ensuring a perfectly tight joint. the lead is chemical lead, which acids do not attack. We can line with any thickness of lead desired. Of course, the thicker the lining, the higher the cost. We have furnished this

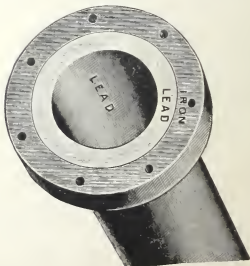
pipe for use on all kinds of acids, hot and cold. For a hot acid we use a hardened lead. If you have any pipe that is constantly eating out, write us and we will give you all particulars in regard to the kind of pipe you should use.

Salt water is one of the worst waters to eat out pipe, whether iron, brass or copper, but it does not attack LEAD LINED IRON PIPE.

Pump Column Pipes for Mines and Salt Wells.

WE MAKE A PUMP COLUMN PIPE to stand any pressure specified. The joints are flanged together and the lead is recessed into the flanges to make the gasket, making one continuous lead lining.

For water which contains sulphur acid, or other corrosive properties, this pipe for pump columns has no equal. It is in use in the largest copper and coal mines, and for salt wells we use deep-well tubing with long couplings.



Lead Lined Iron Unions.

YOU WILL NOTICE cuts of our LEAD LINED IRON Unions. These Unions need no washer, as the lead lining acts as that. The lining extends down into a portion of the threads, and there can be absolutely no rust or corrosion. The lead is hardened, and it can be used either on hot or cold liquids.

These Unions are essentially different from a Union with a brass seat, as the contact between brass and iron make it rust out very quickly, but there is no action between iron and lead. The ends of the pipe, when screwed into the lead threads of our LEAD LINED IRON UNIONS, protect them from corrosions, whereas in other unions the ends of the pipe have no protection, and are the first to be attacked and eaten out.

Use our LEAD LINED IRON UNIONS, and you will save money and labor.



Lead Lined Iron Stop Cocks.

You will notice a cut of our LEAD LINED IRON STOP COCK. These cocks can be either flanged or screwed, and they are lined with hard chemical lead which acids do not attack. The plug is made of an acid-resisting bronze, and the opening in the plug is thoroughly protected with lead. We make the plug part of bronze in order that it will work easier on the lead lining of the Stop Cock and it does not stick as is the case in other kinds of Stop Cocks.

PRICE LIST

Lead Lined Stop Cocks.

$\frac{3}{4}$ "	\$ 5.00
1	7.15
$1\frac{1}{2}$	11.42
2	17.14
3	21.42
4	28.57
5	46.25
6	60.00
Discount,	

PRICE LIST

Lead Lined Gate Valves.

$\frac{3}{4}$ "	\$10.00
1	14.50
$1\frac{1}{4}$	15.75
$1\frac{1}{2}$	18.50
2	28.00
3	40.00
4	57.14
5	82.00
6	94.50
8	115.00
10	180.00
Discount,	

A technical cross-section diagram of a mechanical assembly. The assembly consists of a central horizontal shaft with a central section labeled 'LEAD' and two threaded sections on either side. This shaft is held in place by a cross-shaped support structure. The top and bottom vertical sections of this support are labeled 'BRONZE'. The horizontal sections, which appear to be flanges or mounting plates, are labeled 'IRON'. The entire assembly is shown in a symmetrical cross-section view.

BRONZE

IRON

IRON

LEAD

LEAD

BRONZE

Lead Lined Iron Valves.

WE PRESENT you cuts of our LEAD LINED IRON VALVES. Our Valve is made of the gate pattern, and all interior parts are thoroughly protected with lead, and there is no possible chance for any corrosive acids or liquors to attack the iron. Cuts 1 and 2 show the Valve taken apart, and you can notice the interior. Cut 3 shows an Angle Valve, which is also thoroughly protected with lead. We can make and line any kind of a Valve you desire, either flanged or screwed. These Valves have been subjected to the hardest kind of usage, both in salt water and acids, and they have stood the test for the past eighteen years.

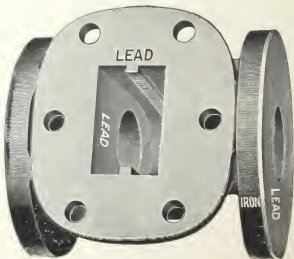


FIGURE 1.



FIGURE 2.



FIGURE 1.

STANDARD LEAD LINED IRON PIPE.

SIZE (Inches)	PRICE Per Foot Lead Lined Iron Pipe	SIZE (Inches)	PRICE Per Foot Lead Lined Iron Pipe
$\frac{1}{8}$	.20	$1\frac{1}{2}$	\$2.00
$\frac{1}{4}$	.20	5	2.69
$\frac{3}{8}$	.30	6	3.28
$\frac{1}{2}$	.39 $\frac{1}{2}$	7	4.83
$\frac{3}{4}$	.48	8	5.73
1	.65 $\frac{1}{2}$	9	6.20
$1\frac{1}{4}$	1.00	10	7.00
1 $\frac{1}{2}$	1.38	11	7.75
2	1.55	12	8.50
3	1.85	13 to 30	*

* Furnished on application

STANDARD Lead Lined Iron Fittings and Tin Lined Iron Fittings.

SIZE	Elbows	45° Elbows	Reducing Elbows	Tees	Couplings	Reducing Couplings	Flanges
$\frac{1}{8}$	.25	.25	.25	.30	.17	.18	.18
$\frac{1}{4}$	.30	.30	.30	.42	.22	.22	.58
$\frac{3}{8}$	.49	.49	.49	.53	.38	.38	.75
$\frac{1}{2}$	.58	.58	.58	.68	.48	.48	.95
2	.84	.84	.84	.95	.61	.61	1.28
$2\frac{1}{2}$	1.25	1.25	1.25	1.60	1.03	1.03	1.95
3	2.30	2.30	2.30	2.80	1.42	1.42	3.90
$3\frac{1}{2}$	2.63	2.63	2.63	4.00	1.93	1.93	
4	4.05	4.05	4.05	5.02	2.53	2.53	
$4\frac{1}{2}$	5.00	5.00	5.00	5.20	3.10	3.10	
5	5.80	5.80	5.80	6.10	3.90	3.90	
6	6.50	6.50	6.50	7.50	4.50	4.50	

Information about larger sizes on application

Lead Covered Coils, Tubes and Pipe.

THERE has been a constant and growing demand for a pipe, with a lead lining on the outside, instead of the inside, and we make it with the lining fused on, just the same as we do when the lining is fused onto the inside of a pipe. Different work requires different kinds of pipe, some work must be done with a copper or brass pipe, and these can be bent into coils of any shape and can be of either heavy or light tubing, just as one desires. Steam can pass through the coils, while acids or any corrosive liquors can be on the outside without doing any injury, as the lead protects the coil of pipe from all corrosion. It often happens that steam must be forced through the coils at a very high temperature, which makes the corrosive liquors attack the outside all the harder, but the lead covering stops all corrosion. These coils of pipe can be made of either brass, copper or iron. You will notice the cuts of a coil and small section of pipe with the outside covering of lead on the opposite page. In asking for prices kindly give us dimensions, length, number of feet desired in the coil; also sizes, and we will quote you prices.

Remember a lead covered pipe or coil will outlast one that is not covered, many times over.



Tin Lined Iron Pipe

WE HAVE manufactured Tin Lined Iron Pipe for over eighteen years. We are constantly furnishing it to creameries, and for house plumbing, where the water is conducted from springs; especially country work, carbonating plants, and wherever a superior pipe for conducting pure water is desired. This pipe is endorsed by the leading physicians, sanitary engineers and health boards throughout the United States. We have furnished a large amount of this pipe to wineries, for conducting wines and liquors or any work of that nature. Made in sizes $\frac{1}{4}$ " up to 10", but listed only to 8". Prices given on larger sizes on application.

The thickness of the tin is greater than in any other tinned pipes made. Do n't confound the use of our Tin Lined Iron Pipe with Tin Lined Brass or Tin Lined Lead, as they are simply a wash, while our tin lining is a distinct thickness of tin amalgamated to the iron.

Price List.

$\frac{1}{4}$ inch	per foot, \$	.48
$\frac{3}{8}$ inch.	" "	.48
1 inch	" "	.64
$1\frac{1}{8}$ inch	" "	.83
$1\frac{1}{2}$ inch	" "	1.03
2 inch	" "	1.27
$2\frac{1}{2}$ inch	" "	1.80
3 inch	" "	2.34
$3\frac{1}{2}$ inch.	" "	2.90
4 inch	" "	3.50
5 inch..	" "	5.00
6 inch..	" "	8.00
7 inch.	" "	10.50
8 inch	" "	13.80



Brass Pipe Lined with Tin for open work plumbing. Prices furnished on application.

REMEMBER !

Our **LEAD LINED IRON PIPE** is half the price of Brass or Copper Pipe, and it will outlast either of them, as the lead lining is fused onto the iron in such manner that it is impossible for the two metals to become separated.

We can cut your pipe to sketch if desired.

Save money and use **LEAD LINED IRON PIPE**.

IMPORTANT !

If our pipe is to be used on any liquids but water, it must be stated so in your order. If nothing is mentioned in your order, we will furnish you pipe for water, as a pipe for acids or other liquids must be made up specially, and do not use our water pipe for any other purpose.

TIN LINED IRON PIPE is used for vinegar, wines, liquors, carbonating plants, distilled water, and for pure drinking water.

THE ACTION OF A



OF A

THOMAS EDWYER

YOUR NAME WILL BRING OUR CATALOGUE TO YOUR ADDRESS



ON LEAD LINED PIPE IS HARMLESS THE LINING OF LEAD RENDERS THE IRON PIPE IMPERVIOUS TO CORROSION

WORKS AT WAKEFIELD MASS

MANAGER

WAKEFIELD, MASS.